National Institute of Environmental Health Sciences

The influence of national temperature fluctuations on opinions about climate change in the US since 1990

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Abstract:

Public opinion in the United States about human-caused climate change has varied over the past 20 years, despite an increasing consensus about the issue in the expert community. Attitudes about climate change have been attributed to a number of factors including personal values, political ideology, the media environment and personal experience. Recent studies have found evidence that the temperature can influence one's opinion about climate change and willingness to change behaviour and/or support climate policy. Although there is some evidence that individual cool or warm years have influenced large-scale opinion about climate change, the extent to which temperature can explain the past variability in public opinion and public discourse about climate change at the national level is not known. Here we isolate the relationship between opinion about climate change and temperature at the national scale, using data from opinion polls, a discourse analysis of opinion articles from five major daily newspapers, and a national air temperature database. The fraction of respondents to national polls who express "belief in" or "worry about" climate change is found to be significantly correlated to U.S. mean temperature anomalies over the previous 3-12 months. In addition, the fraction of editorial and opinion articles which "agree" with the expert consensus on climate change is also found to be significantly correlated to U.S. mean temperature anomalies at seasonal and annual scales. These results suggest that a fraction of the past variance in American views about climate change could potentially be explained by climate variability.

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Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Public

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

United States

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified